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REMARKS

Claims 1-26 are pending in the instant application after this amendment adds new claims 23-26. Claims 1 and 10 are amended to clarify the subject matter recited therein. No new matter is added by the amendments and new claims, which find support throughout the specification and figures. In particular, the new claims are supported at least at paragraph 0047. In view of the following remarks, Applicants respectfully request reconsideration of the present application.

Claims 1-3, 5-12, and 14-20 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent No. 6,055,605 to Sharma (hereinafter referred to as Sharma). To be properly rejected under 35 U.S.C. 102(b), the cited reference must teach each and every feature of the rejected claims. Applicants respectfully traverse.

Claim 1 relates to a storage system that includes, *inter alia*, ***a plurality of data storage logical units (LUs)*** comprising physical media, the plurality of LUs being adapted to receive commands, and responsive to the commands to store and recall data. In the storage system of claim 1, ***a plurality of ports, each port being adapted to maintain an LU command queue for each of the LUs.***

The Office Action asserts that Sharma discloses the features of a data storage logical unit at element 150 of figure 3 (Office Action; page 3, lines 4-5). Element 150 of Sharma is apparently a memory. Without admitting the veracity of the assertion that such a memory discloses a logical unit as claimed, and in the interest of expediting prosecution, Applicants herein amend the claims to clarify that the present invention is directed to ***a plurality*** of data storage logical units. Such an amendment is well-supported in the specification, and clarifies the relationship between the plurality of ports maintaining an LU command queue for each of the LUs. In the present invention, there are multiple LUs, and multiple ports maintaining an LU

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command queues for each of the plurality of LUs. The present invention is directed to systems having multiple LUs (see figures 1 and 2). Additionally, as previously discussed and as clarified by the current amendment, *each port* is adapted to communicate *with all of the LUs*, and has a *command queue for each of the LUs*. It is respectfully submitted that not only does Sharma not disclose the feature of multiple LUs, but Sharma also does not disclose ports having multiple command queues, and even more specifically, each of the multiple ports having an LU command queue for each of the multiple LUs. Therefore, Sharma does not identically disclose or suggest a storage system having a plurality of LUs and a plurality of ports, each port being adapted to maintain a plurality of LU command queues, each of the plurality of LU command queues corresponding to a respective one of the LUs. Since Sharma does not identically disclose or suggest all of the features of claim 1, the rejection should be withdrawn.

Claims 2, 3, 5-9, 19, and 20 depend from claim 1 and are therefore allowable for at least the same reasons as claim 1 is allowable.

Additionally, claim 9 discloses the feature of the physical media comprising the data, and *the port being adapted to track changes of location of the data within the physical media*. The Office Action asserts that element 180, the coherence controller, discloses the feature of this claim (Office Action; page 4, bottom). However, without admitting the veracity of the assertion that element 180 tracks data location changes, it is respectfully submitted that this does not disclose or suggest *each port* tracking changes of location of data. The Office Action asserts that elements 312/322, etc. disclose ports as recited in the claims. Applicant respectfully disagrees (see above), but even if these ports were substantially similar to the ports as claimed, there is no indication in Sharma that these ports track changes of location of data within the physical media. Therefore for at least this additional reason claim 9 is allowable.

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Claims 19 and 20 are rejected based on Sharma, however no citation or support is provided for the rejections. The Examiner apparently argues from inherency or personal knowledge. In either case, Applicants respectfully request a citation to Sharma, or a proper argument for inherency, or alternatively that the rejections be withdrawn.

Claim 10 includes features similar to those discussed above in regard to claim 1, and therefore for at least the same reasons as claim 1 is allowable, claim 10 is also allowable.

Claims 11, 12, and 14-18 depend from claim 10 and are therefore allowable for at least the same reasons as claim 10 is allowable.

Additionally, claim 18 recites a feature similar to that discussed above in regard to claim 9, and therefore claim 18 is allowable for at least the same additional reason as claim 9 is allowable.

Claims 4, 13, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma. Applicants respectfully traverse.

Claims 4 and 13 depend from claim 1 and are therefore allowable for at least the same reasons as claim 1 is allowable.

Additionally, Applicants respectfully challenge the taking of Official Notice with respect to these claims, and assert that the feature of the command comprising a request according to a small computer system interface (SCSI) protocol is not a proper subject for Official Notice. It is also respectfully submitted that there is no proper motivation presented for modifying Sharma, since the mere availability of alternative methodologies does not provide a proper motivation to modify a reference.

Claims 21 and 22 depend from claim 10 and are therefore allowable for at least the same reasons as claim 10 is allowable.

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Additionally, Applicants respectfully challenge the taking of Official Notice with respect to these claims, and assert that the feature of at least one of the converted commands directed to the physical media being first sent to a fast access time memory acting as a buffer in which said fast access time memory being is adapted to redirect the converted command to the respective physical media, is not a proper subject for Official Notice. It is also respectfully submitted that there is no proper motivation presented for modifying Sharma, and the assertion that incorporating such a technology would be time saving and efficient is improper.

New claims 23 and 25 depend from claim 1, and new claims 24 and 26 depend from claim 10, and therefore each of these claims is allowable for at least the same reasons as their respective base claims are allowable. Additionally, claims 23 and 24 recite the feature that the physical media which comprise the plurality of data storage logical units (LUs) are slow access time non-volatile physical media. It is respectfully submitted that Sharma does not disclose or suggest this feature, but rather apparently discloses a cache. Therefore, for at least this additional reason claims 23 and 24 are allowable.

Similarly, claims 25 and 26 recite the feature that a particular physical media which comprise each of the plurality of data storage logical units (LUs) changes over time. It is respectfully submitted that Sharma does not disclose or suggest this feature, but rather apparently discloses a single memory unit that is unchanging (element 150 of Sharma). Therefore, for at least this additional reason claims 25 and 26 are allowable.

CONCLUSION


In view of the remarks set forth above, this application is believed to be in condition for allowance which action is respectfully requested. However, if for any reason the Examiner

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should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



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